Exemption No. 7455

UNITED STATES OF AMERICA
DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
RENTON, WASHINGTON 98055-4056

In the matter of the petition of **Garrett Aviation/The Jet Center** for an exemption from § 25.813(e), of Title 14, Code of Federal Regulations	**Regulatory Docket No. FAA-2000-8165**

GRANT OF EXEMPTION

By letter dated October 5, 2000, Mr. Sarkis Karaguzian, Certification Coordinator, Garrett Aviation/The Jet Center, 16300 Daily Drive, Van Nuys Airport, Van Nuys, California 91406, petitioned for an exemption from the requirements of § 25.813 (e) of Title 14, Code of Federal Regulations (14 CFR). The petitioner has requested the exemption in order to permit the installation of interior doors between passenger compartments on the Bombardier Global Express airplane, Model BD-700-1A10.

The petitioner requests relief from the following regulations:

Section 25.813(e) prohibits the installation of doors between passenger compartments.

The petitioner provided supportive information as follows:

"The purpose of this letter is to request an exemption to FAR 25.813(e) to permit the installation of doors in partitions between passenger compartments in BD-700-1A10 aircraft used for corporate transport. In support of this request, Garrett Aviation/The Jet Center, Van Nuys and Santa Barbara, is proposing alternative design requirements to provide a level of safety appropriate to the operation of corporate aircraft equipped with partitions with doors.

"The BD-700-1A10 is designed to the requirements of FAR Part 25, for Transport Category. These rules are addressed basically to Transport Category airplanes that are used for the carriage of fare paying passengers from the general public, and also must consider aircraft with passenger seating up to 500. The BD-700-1A10 on the other hand, is Type Certified for maximum of 19 passengers and will be outfitted exclusively for corporate use. The differences between the commercial Transport Category aircraft used in operation and aircraft specifically used for corporate operations (whether private or non-scheduled commercial), are not segregated in the FAR Part 25 rules. Garrett Aviation/The Jet Center contends that airplanes specifically designed for corporate service, whether private or commercial, should be eligible for the acceptance by exemption of cabin features and facilities which do not comply with the full requirements of FAR Part 25, provided a similar level of safety is provided and can be demonstrated. The Corporate fleet utilizing aircraft certified in the Transport Category world wide, has now grown to a point where it is contended that the certification agencies need to consider new revised design rules for aircraft involved in this class of operation.

"Aircraft specifically designed and outfitted for corporate operation generally carry passengers familiar with flying and very familiar with the specific aircraft in which they travel. Also unlike an airliner, the crew of a corporate aircraft have day to day contact with the people who are their passengers, thus safety communications is positive. Add to this the fact that these aircraft are generally operated continuously by one crew who are intimately knowledgeable of the specific aircraft. Furthermore, when a partition is installed, it is not possible to install more than 15 passenger seats which are certified for take-off and landing because of the limitations inherent in full compliance with FAR 25.562. This in itself is a compensating factor. Therefore, the combination of these facets of corporate operation provide an initial level of safety which can never be achieved in an airliner, thus necessitating the latter to require a more complete set of regulatory safety features to achieve the same result. However, as stated above, it is intended to incorporate mechanical features in the door design, which will enhance the safety of the aircraft with partition and door dividing the passenger seating area.

"<u>Additional Safety Features</u>:

"1. The cabin of the BD-700-1A10 is approximately 8 feet wide. It is necessary to divide the cabin full width laterally, to produce a private area, because a side corridor is impractical. The doors to be installed would be sliding pocket doors retracting into the partition on one side of the aircraft. The doors would require a retracting footer because with a cabin headroom of 6 ft the door must slide downward tangential to the fuselage contour. The door would be frangible to enable it to be broken open in an emergency. In addition to having blow-out capability for decompression.

"2. This would allow sections of the passenger seating area to be used as a private office or bedroom during long duration flights. The proposed door would have a placard, requiring to be open for take-off and landing.

"3. The door would also be equipped with double means of locking the door open, such that the probability of unlocking due to distortion of the fuselage in an emergency landing would be minimized. Either means will be capable of supporting the inertia loads specified in FAR 25.561.

"4. Furthermore, it is proposed that an amber "CABIN DOOR" warning light would be provided in the cockpit visible to both pilots. It is proposed that the warning light would automatically extinguish with gear retraction, remain off during flight and illuminate with gear down if the door was not full open position. This would provide the crew with sufficient time to have the cabin set for landing.

"5. The emergency exit sign requirements will be addressed separately to ensure that the level of passenger guidance required to find an exit will be provided. This would have to be done on each aircraft since there are often differences between the individual aircraft interior arrangements.

"6. The Passenger Information Card (PIC) would contain a section describing the action of the door, the emergency features it includes and instructions for latching the door open for take-off and landing.

"Effect of the Exemption:

"The effect of the safety features described above is to ensure that there is always a clear path through the partition to an emergency exit. However, even if some extreme condition should result in the door being partially closed after an accident, there are still simple means to get through the door to reach an exit. The frangibility feature will be tested using 5 percentile female and the resulting aperture demonstrated to be large enough to allow for a 95 percentile male to escape. Because the basic issues of a passenger finding and reaching an exit in an emergency are addressed by the above features and the natural safety parameters inherent in corporate operation, it is argued that the exemption as requested would provide a level of safety for the passengers in the BD-700-1A10 aircraft, which would be equal to that required for airline aircraft.

"Issue of Public Interest:

"General Electric Company (GE), one of the worlds largest corporations, which is the parent company of Garrett Aviation/The Jet Center, is a major international company, which provides all kinds of appliances, parts and services in different industries specially in the aerospace industry to local and international markets. GE manufactures principally in the U.S.A. and is one of the largest employer in the world. The aircraft manufactured by Bombardier are equipped with avionics and other specialized systems and equipment manufactured in North America. This business provides competition to manufacturers in Europe and elsewhere, and maintains considerable employment in North America. With the

growing numbers of Transport Category corporate aircraft and the stabilizing effect that manufacture and support has on the job market, it is definitely in the interest of the public in the U.S.A. .

"Private areas in corporate aircraft are being requested by an increasing number of prospective aircraft operators. They compare the BD-700-1A10 aircraft outfitted at Garrett Aviation/The Jet Center with the same products of Bombardier Completion Centers in Canada and U.S.A. who are able to offer this feature. This differential creates an unfair competitive edge in this market. The exemption as proposed above is in essence only an alternative method of achieving an equivalent level of safety, while at the same time providing features attractive to prospective purchasers. Similar exemption was granted by the Federal Aviation Administration (FAA) to a larger airplane such as The Boeing Company's 737-700IGW (737-BBJ) FAA Exemption No. 6820 and 6820A.

"Garrett Aviation/The Jet Center believes that the above arguments favor an exemption to permit doors to be installed in partitions, which divide a passenger cabin. Garrett Aviation/The Jet Center respectfully requests that you review the above and consider this exemption request for Garrett Aviation/The Jet Center facilities located in 16300 Daily Drive, Van Nuys, CA 91406 and 495 South Fairview Avenue, Goleta, CA 93117."

Notice and Public Procedure Provided

On January 17, 2001 (66 FR 4053), and on January 22, 2001 (66 FR 6750), the FAA published notice of the petition for exemption in the Federal Register and requested comments from the public. No comments were received in response to the notice.

FAA's Analysis of the Petition

As noted by the petitioner, there are differences between commercial and private use operation (whether by an individual or a corporation) of transport category airplanes that warrant consideration of the appropriate level of safety that is warranted. The FAA is giving great attention to the issues raised when these airplanes are operated in private use. In recognizing the differences between commercial and private use operations, the FAA has identified several regulatory requirements, including the subject of this petition, that may need to be revised to address the safety issues revealed by these differences. The FAA is currently reviewing the adequacy of the current regulations and in the future may propose revisions to the requirements, where appropriate.

The current regulations allow the installation of interior doors, provided that passengers cannot be seated on both sides of the door during takeoff and landing. The FAA has safety concerns regarding doors that are located between passengers and exits. The FAA has proposed to prohibit such installations in future designs, as detailed in Notice of Proposed Rulemaking 96-9 (61 FR 38551, July 24, 1996). However, until the regulations are revised, such doors may continue to be installed without the need to process a petition for exemption. Additionally, the

FAA has recently issued exemptions for private use airplanes that would permit installation of doors between passenger compartments, provided that certain limitations are met. The petitioner has proposed most of these limitations as part of this petition.

As noted in previous dispositions of similar petitions, the FAA does not agree that all interior doors are equivalent, and has made a specific distinction between:

- doors whose failure affects only the occupants of a room, and
- doors whose failure affects other occupants as well.

This issue is significant to the segment of the public operating these airplanes in private use. These operators prefer to have the flexibility to partition the airplane in any manner as they consider necessary for their particular objective or enterprise. The FAA acknowledges the operators' point of view, but maintains that, even with the limitations proposed, an equivalent level of safety cannot be provided when doors span the main cabin aisle. Even the petitioner essentially acknowledges that the level of safety may not be the same, but states that the planned arrangement of doors is appropriate for the type of operation involved, and is similar to that of commercial operation. In recognition of the apparent conflict, the FAA is pursuing separate rulemaking directed at private use airplanes that will be used to reconcile these regulatory issues.

With respect to the BD-700-1A10 that is the subject of this petition, there is the potential for some occupants to be seated aft of the two emergency exits in the airplane and some occupants to be seated aft of an interior door. (One exit is located on the left side of the fuselage between stations 310 and 347; the other exit is located on the right side of the fuselage between stations 622.1 and 642.1.) In this case (that is, with an interior door installed aft of station 642.1), it is not clear whether the door would be under the control of the occupants seated forward or aft of it. Therefore, the FAA considers that an additional limitation is necessary to address this case, so that when a door is installed aft of station 642.1, persons seated aft of it can enter the compartment forward of it, even if the door has been latched from the forward side. Specifically, this means that there must be means to manually override a forward-side lock from the aft side of the door. This is similar to the situation where a lavatory door can be unlocked from the outside by crewmembers without special tools.

Additionally, since there are only two emergency exits installed in this airplane, the FAA considers that similar consideration must be given to any interior door installed forward of station 622.1, in order to provide ready access to both exits. Therefore, if a lock can be activated from the forward side of such a door, there must be means to manually override it from the aft side of the door. Conversely, if a lock can be activated from the aft side of such a door, there must be means to manually override it from the forward side of the door.

While the FAA is not aware of any specific incidents of economic harm as a result of different standards being applied to different private use airplanes, the FAA recognizes that significant upgrading of the occupant safety standards in recent years has made this a distinct possibility. Further, as more airplanes are used in executive operations, differences in certification bases will

become more significant in terms of the burden of compliance. This issue is generally not a factor for commercial operation, because the operating rules are typically upgraded along with the type design standards, making the requirements effectively the same for all manufacturers. For privately-operated airplanes, however, this is not the case. Thus, while a grant of exemption is clearly in the interest of the segment of the public for which it is requested, the FAA agrees that the public at large has the potential to benefit by granting increased flexibility to the manufacture and modification of the BD-700-1A10 airplane.

Nevertheless, there exists the possibility that persons will be carried as passengers on these airplanes who, by virtue of their employment or some other relationship to the airplane's owner, may be compelled to fly. These persons will not be aware of the specific grants of exemption, and might assume that these airplanes are effectively equivalent to commercially operated airplanes. For this reason, the FAA considers it necessary for each passenger to be made aware that the particular airplane does not comply with all of the occupant safety standards mandated for the airplane type in general. The FAA will allow each operator to determine how best to accomplish this notification, but will require that procedures be developed to ensure that each passenger is so informed prior to flying on the airplane for the first time. The notification to any individual need only be accomplished once. This limitation is in addition to those proposed by the petitioner.

The approach to flight deck annunciation proposed by the applicant is generally acceptable. However, the use of blue or white lights to indicate the improper position of the door(s) is a non-standard indication for a condition that may require future corrective action [as specified in § 25.1322(b)]. While the indication itself is a certification compliance issue, the FAA considers that an amber light is appropriate.

While this grant of exemption cannot be said to provide the same level of safety that would be afforded were there strict compliance with the regulations, the resultant level of safety is consistent with other private use airplanes. In addition, the level of safety that results from this exemption is specifically requested and desired by that segment of the public, namely the owners, that will fly on these airplanes. The FAA also notes that no other parties have expressed an interest in this petition.

After considerable deliberation, the FAA has concluded that the installation of interior doors, with certain limitations, can be accepted. In order to maximize the level of safety, the FAA will require that certain limitations, including some as proposed by the petitioner, be made mandatory to permit such installations. As noted previously, there are precedents for this decision involving other private use airplanes.

Finally, regarding the type of operation permitted under the terms of this exemption, the FAA notes that the petitioner refers to "non-scheduled" commercial operation. It should be noted that, whether or not operations are scheduled, this exemption does not permit fares to be collected in exchange for transportation. It is also the intent of this exemption that the airplane is not used to transport the general public (common carriage) even if fares are not collected. This exemption

does not restrict one party from collecting fees from another party, as long as the airplane is operated for private use. That is, the airplane's owner may lease the airplane to another party, who in turn operates the airplane.

The Grant of Exemption

In consideration of the foregoing, I find that a grant of exemption is in the pubic interest and will not adversely affect the level of safety provided by the regulations. Therefore, pursuant to the authority contained in 49 U.S.C. 40113 and 44701, delegated to me by the Administrator (14 CFR § 11.53), the petition of Garrett Aviation/The Jet Center for an exemption from the requirements of 14 CFR § 25.813(e), to allow installation of interior doors between passenger compartments, on the BD-700-1A10 airplane, is hereby granted, with the following provisions:

1. The airplane is not operated for hire or offered for common carriage. This provision does not preclude the operator from receiving remuneration to the extent consistent with 14 CFR part 125 and 14 CFR part 91, subpart F, as applicable.

2. Each door between passenger compartments must be frangible.

3. Each door between passenger compartments must have a means to signal to the flight crew when the door is closed. Appropriate procedures/limitations must be established to ensure that takeoff and landing is prohibited when such compartments are occupied and the door is closed..

4. Each door between passenger compartments must have dual means to retain it in the open position, each of which must be capable of reacting the inertia loads specified in 14 CFR § 25.561.

5. When doors are installed in transverse partitions, they must translate laterally to open and close.

6. When doors are installed in specified egress paths, each passenger must be informed that the airplane does not comply with the occupant safety requirements mandated for the airplane type in general. This notification is only required the first time that a person is a passenger on the airplane.

7. When doors are installed aft of station 642.1, it must be possible for persons aft of the door to unlock or unlatch the door, without the use of tools. When doors are installed forward of station 622.1, it must be possible for persons forward or aft of the door to unlock or unlatch the door, without the use of tools.

Issued in Renton, Washington, on March 7, 2001.

Original signed by:

D. L. Riggin
Acting Manager
Transport Airplane Directorate
Aircraft Certification Service